

In re: Appln No. 10/603,332
Amendment dated March 19, 2006
Reply to Office action of January 26, 2006

Remarks

Claims 31 - 47 were pending prior to the present amendment. Upon entry of the present amendment, Claims 1-30, 34, 38, 39, and 44 are canceled. Claim 36 is previously presented and remains pending. Claims 31 - 33, 35 - 37, 40 - 43, and 45 - 47 are amended claims to correct for informalities and to limit the scope per cited prior art. Claims 48 - 53 are new claims, wherein claims 49 and 50 are independent claims. Only three independent claims are pending and the total number of claims remains less than twenty, it is believed that no additional claim fees are required.

35 USC 112, para. 2; Claim Objections

The Examiner cited for Claim 43 the specific objection of including informalities and improper Markush group recitation. Where the Applicant has not traversed, Applicant thanks the Examiner for the careful examination that uncovered this error. Applicant has addressed this objection by amending the appropriate claim limitations.

Because the Examiner's objections have been overcome, Applicant respectfully requests withdrawal of these rejections.

35 USC 112; Claim Rejections

Claims 32 - 33, 35 and 37 - 47 were rejected by the Examiner as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Applicant thanks the Examiner for the careful examination that uncovered this error. Applicant has addressed this objection by amending Claim 32 limitation by the elimination of the term "coating imparted" to simply "coated powder". The preamble of Claims 32, 33, 35, 37, 40 - 43, and 45 - 47 has been corrected to address the rejection and further amended to eliminate vagueness and achieve better clarity of the claims.

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Ogawa et al (JP 58-103565) Cannot be properly cited to render amended Claims 31 - 33, 35 - 36, and 47 as being anticipated

Claims 31 - 36, 38 - 43, and 47 were rejected by the Examiner as being anticipated by Ogawa et al JP 58-103565 (hereinafter '565). The Examiner contends that '565 teaches an electrically conductive paint comprising a coating and a sub-micron particle size to meet the limitations of Claims 31 - 36, 38 - 43, and 47.

With respect to independent Claim 31 applicant has responded by modifying the language to further reflect the absence of any reference by '565 to functionality centered around a reduced energy consumption or thermal conductivity. '565 furthermore has no stoichiometric excess of coating thus not anticipating the increased surface area of the reduced metal powder as compared to the metal powder precursor. Also as previously noted '565 does not anticipate a coated metal powder precursor as having the means to produce a metal powder having particle size smaller than the original powder precursor. The Applicant submits modified independent Claim 31 and dependent claims 31 - 33, and 34 - 36 to reflect the fundamental difference and importance of reducing a coated powder precursor versus a non-coated powder precursor.

Sekhar et al (US 5,364,513) Cannot be properly cited to render amended Claims 31 - 33, 36 38 - 41, 44 - 45, and 47 as being anticipated

Claims 31 - 33, 36, 38 - 41, 44 - 45, and 47 were rejected by the Examiner as being anticipated by Sekhar et al US 5,364,513 (hereinafter '513). The Examiner contends that '513 teaches an electrically conductive solution comprising a coating and a metal particles to meet the limitations of Claims 31 - 33, 36 38 - 41, 44 - 45, and 47.

With respect to independent Claim 31 applicant has responded by modifying the language to further reflect the absence of any reference by '513 to either sub-micron particle size (having significantly higher conductivity enhancement performance) functionality centered around a reduced energy consumption or thermal conductivity. In fact '513's reference to size is quoted as "small particles in the range of 5 to 10 micrometers". '513 furthermore has no

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stoichiometric excess of coating thus not anticipating the increased surface area of the reduced metal powder as compared to the metal powder precursor. Also as previously noted '513 does not anticipate a coated metal powder precursor as having the means to produce a metal powder having particle size smaller than the original powder precursor. Lastly, '513 does not anticipate electrical conductivity as a differentiable feature due to the absence of copper, aluminum, beryllium, gold, or silver all of which are recognized as yielding superior electrical and thermal conductivity. The Applicant submits modified independent Claim 31 and dependent Claims 31 - 33, 36, 40 - 41, 45, and 47 to reflect the fundamental difference and importance of reducing a coated powder precursor versus a non-coated powder precursor.

Binnis et al (US 3,345,187) Cannot be properly cited to render amended Claim 44 as being anticipated

Claim 44 was rejected by the Examiner as being anticipated by Binnis et al US 3,345,187 (hereinafter '187). The Examiner contends that '187 teaches sub-micron coated metal precursor powders inhibited against corrosion to meet the limitation of Claim 44.

With respect to dependent Claim 44 applicant has responded by both canceling Claim 44 and more importantly by modifying the language of independent Claim 31 to further reflect the absence of any reference by '187 to functionality centered around a reduced energy consumption or thermal conductivity. '187 furthermore has no stoichiometric excess of coating thus not anticipating the increased surface area of the reduced metal powder as compared to the metal powder precursor. Also as previously noted '187 does not anticipate a coated metal powder precursor as having the means to produce a metal powder having particle size smaller than the original powder precursor. Lastly, '187 does not anticipate electrical conductivity as a differentiable feature due to the absence of copper, aluminum, beryllium, gold, or silver all of which are recognized as yielding superior electrical and thermal conductivity. The Applicant submits modified independent Claim 31 to reflect the fundamental difference and importance of reducing a coated powder precursor versus a non-coated powder precursor, and the elimination of the reference to electrical conductivity.

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Cuhra et al (US 3,305,369) Cannot be properly cited to render amended Claim 46 as being anticipated

Claim 46 was rejected by the Examiner as being anticipated by Cuhra et al US 3,305,369 (hereinafter '369). The Examiner contends that '369 teaches sub-micron coated metal precursor powders inhibited against corrosion to meet the limitation of Claim 46.

With respect to dependent Claim 46 applicant has responded by modifying the language of independent Claim 31 to further reflect the absence of any reference by '369 to functionality centered around a reduced energy consumption or thermal conductivity. '369 furthermore has no stoichiometric excess of coating thus not anticipating the increased surface area of the reduced metal powder as compared to the metal powder precursor. Also as previously noted '369 does not anticipate a coated metal powder precursor as having the means to produce a metal powder having particle size smaller than the original powder precursor. '369 does not anticipate electrical conductivity as a differentiable feature due to the absence of copper, aluminum, beryllium, gold, or silver all of which are recognized as yielding superior electrical and thermal conductivity. The Applicant submits modified independent Claim 31 to reflect the fundamental difference and importance of reducing a coated powder precursor versus a non-coated powder precursor, and the elimination of the reference to electrical conductivity. Furthermore, '369 does not anticipate nanoscale particle sizes as ball mill processes are not able to achieve particle size less than 100 nm. Furthermore, the bulk density of '369 silver powder is clearly not nanoscale particles. Lastly, '369 does not anticipate the coated silver powder being utilized to enhance electrical conductivity, thermal conductivity, or energy efficiency as the coated silver powder is applied as quoted to "capacitor bodies consisting of ceramics, glass, quartz, or ferrite" all being recognized and known for their insulating properties rather than conductivity.

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Summary

Applicant respectfully submits that the presently pending claims have overcome the Examiner's objections. Accordingly, Applicant respectfully request allowance of the pending claims. Should the Examiner require any further information or wish to discuss any aspect of this Response, Applicant respectfully request that the Examiner contact the undersigned at the telephone number listed below. It is believed that no fees are required for this filing.

Respectfully submitted,
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March 19, 2006

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